AF/GP3723

#10 appeal Brief 9/21/99

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

DONALD E. HANEY

September 7, 1999

Serial No. : 08/993,699

Group Art Unit 3723

Filed : December 18, 1997

Examiner R. Rose

For : SANDER WITH ORBITING PLATEN AND ABRASIVE

Assistant Commissioner for Patents
Box AF
Washington, D.C. 20231

Sir:

BRIEF FOR APPELLANT

This is an appeal from the Examiner's February 4, 1999 final rejection of claims 1-15.

REAL PARTY IN INTEREST

Donald E. Haney is the real party in interest.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claims 1-13 were filed with the application, and claims 14-16 were added by a preliminary amendment. Claim 16 was subsequently canceled without prejudice, leaving claims 1-15 pending. Claims 1-15 are finally rejected and are being appealed.

STATUS OF AMENDMENT

No amendments were filed subsequent to the final rejection. Attached as Exhibit 1 is a listing of claims 1-15 as they currently stand.

SUMMARY OF THE INVENTION

The invention at issue includes a method of sanding a generally planar surface of an article of wood, and an orbital sander for abrading wood products. The method requires providing a sanding machine, placing an article on a conveyor associated with the sanding machine, and transporting an article on the conveyor past a platen structure associated with the sanding machine while moving the platen in a specified way. The orbital sander includes a moveable brace 70, two shafts 102 and 104 supported by the brace, and an elongate, moveable platen 100 supported by the two shafts. The platen is configured to move in a translational orbit while the brace also moves.

ISSUES

1. Whether claims 1-13 claim the same invention as that set forth in claims 1-13 of U.S. Patent No. 5,702,287.

2. Whether claims 14-15 claim the same invention as that set forth in claims 2, 4-5 and 10-11 of U.S. Patent No. 5,443,414.

3. Whether claims 14-15 are indefinite under 35 U.S.C. § 112, second paragraph.

GROUPING OF CLAIMS

Claims 1, 2 and 6-12 stand together under the double patenting rejection. Claims 3-5 and 13 also stand together under the double patenting rejection. Claims 14 and 15 stand together under the indefiniteness rejection.

ARGUMENT

I. Double Patenting

a. Claims 1-13

The Examiner rejected claims 1-13 under 35 U.S.C. § 101 as claiming the same invention as set forth in claims 1-13 of U.S. Patent No. 5,702,287. Applicant has appealed that rejection because pending claims 1-13 differ from the claims in the cited patent in that the pending claims do not require a sheet of sandpaper. In other words, the claims in U.S. Patent No. 5,702,287 specify a sander having a sheet of sandpaper. Pending claims 1-13 simply require a platen structure carrying sandpaper. The sandpaper in pending claims 1-13 may take other forms, for example, the sandpaper may be a roll or belt, which some may argue is not a sheet. This difference is intended to address arguments made by alleged infringers during prior litigation. Thus, claims 1-13 in this case may not be coextensive in scope with claims 1-13 of U.S. Patent No. 5,702,287, and if so, the double patenting rejection should be withdrawn. In re Vogel, 422 F.2d 438, 164 USPQ 619(C.C.P.A. 1970).

b. Claims 14-15

The Examiner rejected claims 14-15 under 35 U.S.C. § 101 as claiming the same invention as that of claims 2, 4-5 and 10-11 of U.S. Patent No. 5,443,414. However, pending claims 14 and 15 differ from the claims in the cited patent because the pending claims include a moveable brace "operatively connected" to a drive shaft, instead of being "linked to" a drive shaft. This change is intended to address arguments made by alleged infringers during prior litigation, where the infringers said that the phrase "linked to" requires a specific linkage. Additionally, pending claims 14 and 15 require an abrasive associated with

a platen, and are not limited to a sheet of sandpaper secured over a platen's flat bottom surface. Thus, pending claims 14 and 15 may not be coextensive in scope with the cited claims of U.S. Patent No. 5,443,414, and if so, the double-patenting rejection should be withdrawn. In re Vogel, 422 F.2d 438, 164 USPQ 619 (C.C.P.A. 1970).

II. Indefiniteness

a. Claims 14 and 15

The Examiner rejected claims 14-15 under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner says that in claim 14, the recitation of the platen moving in a translational orbit when two shafts are rotated is without supporting structure, "in that no means to transmit the rotational motion of the shafts to a translational orbit motion of the platen is recited." The Examiner made this rejection in a first Office action, and applicant responded by amending claim 14 to include bearings associated with the platen, as well as a limitation saying that the platen is supported by the two shafts and bearings. Claim 14, as amended, specifies that "the rotation of the shafts in the bearings causes the platen to move in a translational orbit." Nevertheless, the Examiner maintained the indefinite rejection in the final Office action. Applicant submits that claim 14, as amended, includes structure to transmit the rotational motion of the shafts to a translational orbit motion of the platen, and therefore the claim is definite.

Concerning claim 15, the Examiner said that the phrase "the second and third shafts" is without proper antecedent support. However, claim 15 was amended to change the reference from "second and third shafts" to "each of the two shafts supported by the brace." Thus, applicant thought he had overcome the indefiniteness rejection. Applicant now sees that claim 15

still includes a reference to "the second and third shafts," and applicant proposes changing that phrase to "the two shafts".

CONCLUSION

Applicant submits that pending claims 1-14 are allowable, and therefore requests reversal of the Examiner's rejections. Applicant submits that claim 15 is allowable when amended to correct the error identified above. This brief is being submitted in triplicate. The required fee is submitted herewith. The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment, to Deposit Account No. 11-1540. A duplicate copy of this page, referring to the authorization to charge our Deposit Account, is enclosed.

Respectfully submitted,

KOLISCH, HARTWELL, DICKINSON,
McCORMACK & HEUSER

David A. Fanning
Registration No. 33,233
Of Attorneys for Appellant
520 S.W. Yamhill Street, Suite 200
Portland, Oregon 97204
Telephone: (503) 224-6655
Facsimile: (503) 295-6679

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, BOX AF, Washington, D.C. 20231 on September 7, 1999.

Mandi M. Carsey

1. A method of sanding a generally planar surface of an article of wood, the method comprising:

providing a sanding machine including a conveyor having a feed direction, and an elongate platen structure carrying sandpaper, the platen structure being disposed in a spaced-apart relationship with the conveyor to extend substantially across the conveyor generally crosswise to the feed direction;

placing the article on the conveyor;

transporting the article on the conveyor continuously in the feed direction past the platen structure while contacting the sandpaper with the generally planar surface to be sanded;

translating the platen structure in a first circular translational orbital path of a predetermined diameter at a first frequency of at least three thousand cycles per minute in a plane parallel to the planar surface of the article as the article is transported past; and

during the step of translating, imparting a cyclic second translational motion to the platen structure at a second frequency lower than the first frequency, the cyclic second motion being in the same plane as the first circular translational orbital path and driving the platen structure reciprocally in a direction transverse to the feed direction to prevent the formation of extended linear series of swirls on the generally planar surface of the article in a direction parallel to the feed direction by motion of the platen structure in the first circular translational orbital path over the article as the article is transported past the platen structure by the conveyor, where the cyclic second translational motion

has a cyclic displacement with a range of displacement greater than the magnitude of the predetermined diameter of the first circular translational orbital path.

2. An article of wood sanded according to the method of claim 1.

3. A method of sanding a generally planar surface of an article of wood, the method comprising;

providing a sanding machine including a conveyor to carry articles in a feed direction and an elongate platen structure carrying sandpaper, the platen structure being disposed in a spaced apart relationship with the conveyor with the elongate axis of the platen structure being disposed across the feed direction of the conveyor;

placing the article on the conveyor;

transporting the article on the conveyor past the platen structure continuously while contacting the sandpaper with the generally planar surface to be sanded;

translationally moving the platen structure in a first circular translational orbit at a first speed from one thousand to five thousand inches-per-minute, and in the plane of the generally planar surface of the article as the article is transported past; and

while translationally moving the platen structure in the first circular translational orbit, adding a cyclic second translational motion to the platen structure in the plane of the generally planar surface of the article at a second speed with an average magnitude lower than that of the first speed and in a direction transverse to the feed direction.

4. The method of claim 3 further including choosing a second speed with an average magnitude between 1/15 and 1/60 of that of the first speed.

5. An article of wood sanded according to the method of claim 3.

6. The method of claim 1 wherein the cyclic second translational motion is circular.

7. The method of claim 1, wherein the sanding machine further includes at least two power driven shafts supporting the platen structure, one shaft supporting the platen structure on one side of the platen structure's center and another shaft supporting the platen structure on a different side of the platen structure's center, wherein the platen structure is translated in the first circular translational orbital path by rotation of the at least two power driven shafts.

8. The method of claim 1, wherein the sanding machine further includes a vacuum positioned over the conveyor and downstream from the platen structure relative to the feed direction, and wherein the method includes the step of actuating the vacuum.

9. The method of claim 1, wherein the sanding machine further includes a rotating brush extending substantially across the conveyor and downstream from the platen structure relative to the feed direction of the conveyor, and wherein the method includes the step of rotating the brush as the conveyor transports the article so that the brush may contact the article on the conveyor.

10. The method of claim 9, wherein the sanding machine further includes at least two power driven shafts supporting the platen structure, one shaft supporting the platen structure on one side of the platen structure's center and another shaft supporting the platen structure on a different side of the platen structure's center, and wherein the platen structure is translated in the first circular translational orbital path by rotating the at least two power driven shafts; and wherein the sanding machine further includes a vacuum positioned over the conveyor and downstream from the platen structure relative to the feed direction, and wherein the method includes the step of actuating the vacuum.

11. The method of claim 10, wherein the sanding machine further includes a moveable brace supporting the at least two power driven shafts, and a motor mounted on the brace to drive the at least two power driven shafts, and wherein the cyclic second translational motion is imparted by moving the brace.

12. The method of claim 11, wherein a single point on the sandpaper moves to produce a contact pattern on the generally planar surface to be sanded that includes a series of loops extending generally back and forth across a portion of the generally planar surface and extending generally along the generally planar surface in the conveyor feed direction.

13. The method of claim 3, wherein the cyclic second translational motion is circular.

14. An orbital sander for abrading wood products comprising:

a frame;

a first motor mounted on the frame,

a drive shaft rotatable by the first motor and extending from the first motor,

a moveable brace supported by the frame and operatively connected to the drive shaft, so that the brace moves when the drive shaft is rotated by the first motor,

a second motor mounted on the brace,

two shafts supported by the brace and rotatable by the second motor,

an elongate, movable platen having a flat bottom surface,

bearings associated with the platen, where the platen is supported by the two shafts and bearings, and where the rotation of the shafts in the bearings causes the platen to move in a translational orbit

an abrasive associated with the platen to abrade the wood products, and

a conveyor supported by the frame and positioned beneath the platen's flat bottom surface.

15. The sander of claim 14 further comprising two timing pulleys, one on each of the two shafts supported by the brace and a timing belt driven by the second motor and extending around the two timing pulleys so that when the second and third shafts are rotated by the second motor, the shafts move in time.